

Application Number 10/775,884
Amendment dated June 3, 2005
Responsive to Office Action mailed March 10, 2005

AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions and listings of claims in the application.

Listing of Claims:

Claim 1 (Currently amended): A linear recording medium, for use with a recording drive designed to read pairs of non-parallel servo transitions having a substantially non-zero azimuth angle, and no modulation of distance between immediately adjacent pairs of non-parallel servo transitions on the medium, comprising a series of pairs of parallel servo transitions, wherein for each of the pairs of non-parallel servo transitions there is a corresponding pair of parallel servo transitions at a zero azimuth angle.

Claim 2 (Currently amended): The medium of claim 1, further comprising modulated distances between adjacent pairs of non-parallel servo transitions as a function of location of the pairs of non-parallel servo transitions on the medium, the modulated distances being encoded to define position error signals such that a drive designed to expect essentially no modulated distances between adjacent parallel servo transitions on the medium will generate the position error signals.

Claim 3 (Original): The medium of claim 1, in which the linear recording medium is a magnetic recording medium.

Claim 4 (Original): The medium of claim 1, in which the linear recording medium is a tape recording medium.

Claim 5 (Currently amended): The medium of claim 1, in which the transitions of the pairs of parallel servo transitions define second series has a roughened gap edge profiles.

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Claim 6 (Currently amended): The medium of claim 5, in which the roughened gap edge profiles define ~~has~~ peak-to-peak roughening amplitude, A , equal to $\left(\frac{T_w}{2}\right) \tan \theta$, where θ is a slant angle and the profile has a cross track wavelength λ approximately equal to a servo read head track width T_w .

Claim 7 (Currently amended): A system for intentionally generating position error signal in a data recording drive designed to read ~~only pairs of non-parallel~~ servo transitions having a substantially ~~non-zero azimuth angle and~~ no modulation of distance between immediately adjacent pairs of non-parallel servo transitions on the medium, comprising in combination:

- a) a linear recording medium comprising pairs of parallel servo transitions at a zero azimuth angle, wherein for each of the pairs of non-parallel servo transitions there is a corresponding pair of parallel servo transitions; and
- b) a servo read head connected to the drive to read at least one of the pairs of parallel servo transitions and the pairs of non-parallel servo transitions.

Claim 8 (Currently amended): The system of claim 7, in which the medium further comprises modulated distances between adjacent pairs of non-parallel servo transitions as a function of location of the pairs of non-parallel servo transitions on the medium, the modulated distances being encoded to define position error signals such that a drive designed to expect essentially no modulated distances between adjacent parallel servo transitions on the medium will generate the position error signals.

Claim 9 (Currently amended): The system of claim 7, in which the transitions in the pairs of parallel servo transitions at a zero azimuth angle have a ~~define~~ roughened gap edge profiles.

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Claim 10 (Currently amended): The system of claim 9, in which the roughened gap edge profiles ~~define~~ has peak-to-peak roughening amplitude, A , equal to $\left(\frac{T_w}{2}\right) \tan \theta$, where θ is a slant angle and the profile has a cross track wavelength λ approximately equal to a servo read head track width T_w .

Claim 11 (Currently amended): A method of evaluating performance of a linear recording drive designed to read pairs of non-parallel servo transitions ~~having a substantially non-zero azimuth angle~~ without modulation of distance between immediately adjacent pairs of non-parallel servo transitions on a linear recording medium compatible with the drive, comprising:

- a) providing a linear recording medium, upon at least a portion of which are:
 - (i) first pairs of non-parallel servo transitions ~~at a non-zero azimuth angle~~; and
 - (ii) for each of the first pairs of non-parallel servo transitions, corresponding second pairs of parallel servo transitions ~~at a zero azimuth angle~~; and
- b) using the drive to read position error signal from the first pairs of non-parallel servo transitions at each transverse location on the medium;
- c) comparing the position error signal to an expected value;
- d) using the drive to read system noise from the second pairs of parallel servo transitions; and
- e) comparing the system noise to an expected value.

Claim 12 (Currently amended): The method of claim 11, in which the transitions in the second pairs of parallel servo transitions ~~at a zero azimuth angle~~ have ~~define~~ a roughened gap edge profiles.

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Claim 13 (Currently amended): The method of claim 12, in which the roughened gap edge profiles

define ~~has~~ peak-to-peak roughening amplitude, A , equal to $\left(\frac{T_w}{2}\right) \tan \theta$, where θ is a slant angle

and the profile has a cross track wavelength λ approximately equal to a servo read head track width

T_w .